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NASA  
PROCUREMENT

Proposed Changes to  
the Jet Propulsion  
Laboratory Contract



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United States  
General Accounting Office  
Washington, D.C. 20548

National Security and  
International Affairs Division

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The Honorable John Glenn  
Chairman, Committee on Governmental Affairs  
United States Senate

The Honorable Carl Levin  
Chairman, Subcommittee on Oversight of Government  
Management  
Committee on Governmental Affairs  
United States Senate

As requested, we are reviewing the relationship between the National Aeronautics and Space Administration (NASA) and the California Institute of Technology (Caltech) for managing and performing research and development at the Jet Propulsion Laboratory (JPL). This report describes selected provisions of the current contract between NASA and Caltech and discusses NASA's proposed changes to them in the Request for Proposal (RFP) for the new contract to begin October 1, 1993. As agreed, we plan to report later on selected provisions of the new contract and on related NASA and JPL management controls.

## Results in Brief

NASA's current contract with Caltech for JPL contains 27 approved deviations from the Federal Acquisition Regulation (FAR). Some deviations are intended to limit Caltech's exposure to financial liability, and some affect internal controls, such as the controls on indirect costs. After reviewing the need to continue each deviation, NASA has proposed dropping more than half of them and restoring much of the FAR language to those remaining. However, the FAR deviations to be included in the next contract will depend on the outcome of negotiations. Therefore, additional deviations could be approved, since most of the deviations in the current contract were authorized during the contract negotiation process.

During negotiations, a few provisions with internal control implications in the RFP could be further clarified or revised. For example, with the proposed addition of two 5-year option periods, the new contract could run until 2008 but be subject to the provisions applicable in 1993. The process for exercising contract extension options should ensure that applicable government regulations are added and updated. The new

contract should also directly address the allowability of so-called "working meals." Such meals are being charged to the current contract based on a broad interpretation by the contractor of the cost principle allowing educational institutions to be reimbursed for the cost of certain meals. NASA should also consider whether and to what extent the practice of reimbursing the contractor for the college tuition costs of employees' dependents should be continued under the new contract.

Under the current contract, NASA pays Caltech an annual fee based on estimates of the volume of work to be conducted at JPL, despite a NASA policy prohibiting the payment of fees to educational institutions. No deviation from this policy was requested or approved for JPL. In fiscal year 1992, the fee was \$14.3 million, which was higher than the fee paid to sponsors of other university-administered federally funded research and development centers (FFRDC). NASA's RFP also includes a provision to pay Caltech a fee but requires that a deviation from its policy against such fees be justified and approved. However, the RFP does not link the fee to management performance.

## Background

JPL operates as an FFRDC, the principal NASA center for solar system exploration, and an operating division of Caltech. The facility is government-owned but is staffed by Caltech employees.

The Caltech-federal government association at JPL has a long history. Caltech began conducting rocketry and other experiments at the JPL site in the 1930s. The U.S. Army, which was interested in propulsion systems beginning in World War II, sponsored Caltech work at the JPL location. When NASA was created in 1958, the facility and sponsorship of JPL government work were transferred to the new agency. The current contract has been influenced, in large part, by this long-standing relationship. This history, combined with the various roles, missions, and organizational structure involved at JPL, shapes the NASA-Caltech relationship.

FFRDCs are funded solely or substantially by federal agencies to meet special long-term research or development needs that cannot be met in any other way. One federal agency serves as the primary sponsor and signs an agreement specifying the purpose, terms, and other provisions for the FFRDC's existence. In accordance with federal regulations, FFRDCs are operated, managed, and/or administered by universities, other nonprofit organizations, or autonomous units of industrial firms. Agreement terms

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cannot exceed 5 years but can be extended after a review of the continued use and need for the FFRDC. JPL, 1 of 39 currently operating FFRDCs, is the only 1 sponsored by NASA.

The present 5-year extension of the NASA-Caltech contract for JPL expires on September 30, 1993. After certifying its continued need for JPL as an FFRDC, NASA released a RFP on November 19, 1992.<sup>1</sup> NASA approved the use of less than full and open competition, and an offer was solicited only from Caltech.<sup>2</sup> Caltech submitted its formal proposal in response to the RFP in March 1993. Management changes within the NASA Resident Office at JPL have impacted the official start date of negotiations. A preliminary fact finding meeting between senior Caltech and NASA officials took place in March 1993. Negotiations are expected to take place during the summer of 1993 and the contract is expected to be signed before the end of September 1993.

The NASA-Caltech contract for JPL is an "umbrella" mechanism. Rather than signing separate contracts for individual work projects, funding for JPL is provided under "task orders," which assign work from NASA directly or through NASA from other sponsors, such as the Department of Defense. In fiscal year 1992, funding for JPL totaled over \$1 billion. A small group of NASA Resident Office personnel maintains on-site liaison at JPL and generally oversees the contract. In addition, representatives from NASA's Office of the Inspector General and from the Defense Contract Audit Agency are located at JPL.

Acquisition activity at JPL is primarily governed by the contract and the FAR. The FAR governs such activities as cost accounting standards and the allowability of costs. The FAR refers to the Office of Management and Budget's (OMB) Circular A-21, "Cost Principles for Educational Institutions," as the relevant document for determinations regarding cost. However, the FAR also allows deviations from its requirements when necessary to meet the specific needs of an agency. For a deviation to be approved by NASA in its contract proposal, the NASA Resident Office was directed to specify an alternative method of monitoring as part of the justification for a deviation.

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<sup>1</sup>NASA's RFP combines into one contract the provisions of the two existing contracts for research and development activities and for the use of government facilities. Our evaluation of the current contracts dealt almost entirely with the research and development contract.

<sup>2</sup>NASA officials stated that any other offer received would have been considered.

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## RFP Contains Fewer FAR Deviations and Tighter Controls in Some Areas

The RFP contains fewer FAR deviations than in the current contract and uses standard FAR language for several important clauses with internal control implications, such as those for determining indirect costs and for applying cost accounting standards. The proposal also includes revisions to other contract provisions, such as the definition of allowable cost, which could provide stricter internal controls.

The justification for a number of the deviations in the current contract and the RFP rests on the long-standing NASA-Caltech agreement that the government should limit Caltech's risk associated with operating JPL. The annual cost of sponsored research at JPL is approximately five times Caltech's total campus expenditures. According to Caltech representatives, potential liability from JPL activities without certain deviations could put Caltech at substantial risk.

The importance of this risk avoidance principle in the NASA-Caltech contract is illustrated by comments in a NASA document supporting the negotiation for the current contract. The document states that "the avoidance of all financial risk to Caltech arising from performance of this contract is the sine qua non of the NASA-Caltech contractual relationship from Caltech's standpoint." This general principle appears to have been accepted by NASA in past contracts. The NASA document also refers specifically to two contract clauses—one allowing the transfer of funds between task orders in certain circumstances and one related to payment of costs if the contract is not renewed. These clauses "... fit into a special subcategory of clauses unique to the NASA-Caltech relationship. These are the contractual provisions which remove all financial risk from Caltech. This is the basic tenet of the NASA-Caltech relationship."

Besides minimizing Caltech's financial liability, NASA and Caltech representatives noted that major FAR deviations are intended to minimize Caltech's administration of government regulations; conform to the circumstances at JPL, such as financing by letter of credit;<sup>3</sup> and make the contract internally consistent. NASA also recognizes its Resident Office's limited resources for cost control and oversight activities.

Caltech representatives said that a deviation from FAR should not be presumed to be inappropriate or unjustified. They noted that some of the deviations were necessary because of government actions. For example, Caltech needed the deviation related to payment of close-out costs if the

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<sup>3</sup>Under a letter of credit, funds are available to the contractor as they are needed to cover expenditures instead of the contractor periodically submitting bills to NASA for reimbursement.

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contract was not renewed because the government had not set aside funds to fully cover termination costs. In the unlikely event of complete termination of JPL activities and the lack of government funds to cover termination costs, Caltech estimated its potential liability could be as high as \$660 million.

Although the RFP contains fewer deviations and includes other changes to the current contract, the new contract may also contain modifications resulting from negotiations with Caltech. For the last contract renewal in 1988, two deviations from FAR or the NASA FAR Supplement were included in NASA's contract proposal. Caltech's response to NASA's proposal included 60 deviations. After negotiations, the final contract had 27 deviations. A member of the NASA negotiating team for the past contract renewal believes this experience does not necessarily portend the likely outcome of future negotiations.<sup>4</sup> The RFP requests that Caltech provide a written rationale for any deviations from standard FAR provisions other than those NASA has included in the RFP. Caltech representatives believe that the starting point for negotiations should be the provisions in the existing contract, rather than the FAR, in recognition that this is not the first agreement between the parties. Caltech's response to the RFP was provided to NASA on March 10, 1993, and does contain a number of requests and their rationale for changes to the RFP, including restoration of some current contract provisions.<sup>5</sup>

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### Number and Scope of Deviations Have Been Reduced

As part of a comprehensive review of the NASA-Caltech contracting arrangement, NASA headquarters officials requested a supporting rationale for each deviation to determine which would be included in the RFP. As a result of this review, NASA reduced the number of FAR clause deviations from 27 in the current contract to 11 in the RFP. One of the deviations in the current contract that was not incorporated in the RFP, for example, is a deviation to the cost accounting standards that prevents the government from recovering increased contract cost if a JPL subcontractor did not comply with the standards.

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<sup>4</sup>Since the 1988 contract was the first to be based on the FAR, the NASA proposal was seen as a starting point from which a contract tailored to the NASA-Caltech relationship would evolve. Much less flexibility is seen for FAR deviations in future contracts because all existing deviation requests have been reviewed, and those considered valid by NASA have been included in the RFP.

<sup>5</sup>This report does not assess Caltech's requests for FAR deviations or other changes in the provisions proposed by NASA. As agreed with your offices, we plan to report to you on the final contract after negotiations are completed.

Some of the 11 clauses approved for deviation involve only minor changes, such as those adjusting standard FAR language to recognize special circumstances at JPL. The definitions clause expands the FAR definition of "contract" so it is applicable to the task order process used at JPL. Other proposed deviations, such as those to the Government Properties clause, are more substantive. Examples of the approved deviations are listed in appendix I.

One key proposed change to the current contract would return much of the FAR language for the Allowable Cost and Payment contract clause. The current contract deviation from this clause deletes all references to reimbursement of indirect costs for payment purposes, treating them as "allocable and allowable direct costs."<sup>6</sup> Therefore, no interim billing rate or final annual indirect cost rate is calculated, as envisioned by FAR. Under the FAR-based language proposed for the new contract, NASA could follow standard practice and establish the final indirect rate based on actual cost experience, rather than a calculation of cost increases from previous years.

Under the current arrangement, NASA is briefed on JPL's annual estimates for indirect costs, but it does not approve the estimate. A NASA official said that 1982 was the last year the annual estimate for indirect costs was calculated based on a comprehensive review of component costs. Since then, the NASA Resident Office has been comparing the changes in the projected amount of indirect costs to the previous year's amount to judge the reasonableness of the costs. The results of using the current method of controlling indirect cost was noted in NASA's summary of JPL's fiscal year 1992 performance. NASA acknowledged the contractor's commitment to improved cost management for technical program activities and encouraged JPL to show the same determination to deliver cost-effectiveness in its indirect cost activities.

After we had discussed procedures for monitoring indirect costs with the NASA Resident Office, it concluded in March 1993 that the actual fiscal year 1993 indirect costs (called "burden" costs at JPL) seemed to be higher than projected and much higher than the last 5 years at JPL. The NASA Resident Office raised these concerns to Caltech and JPL and asked them to explain the reasons for the increases and recommend how to reduce them. In its response to the NASA Resident Office, Caltech explained the apparent

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<sup>6</sup>The Subcommittee on Oversight of Government Management, Senate Governmental Affairs Committee, reported that this practice simply rejected standard government practice and that NASA did not provide convincing rationale why JPL should be excused from a practice for controlling indirect costs (see fn. 10).

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increase in the current year but did not comment on the upward trend over the past few years. The NASA Resident Office told us that NASA had not completed its evaluation of Caltech's position on the current or the prior years' indirect cost experience.

Later, Caltech representatives told us that there had been considerable upward pressure on burden costs since 1988 and that much of the trend increase was externally driven, either by regulation or by direction from NASA, for requirements such as complying with environmental water standards and converting to metric standards. Caltech representatives emphasized that JPL had begun a number of management initiatives that were intended to reduce indirect costs. One such effort will address internal and external impediments to reducing indirect costs. Also, in its response to the RFP, Caltech has offered to augment current reports to NASA by establishing a formalized reporting program to help ensure NASA has sufficient information to effectively monitor JPL burden costs.

Whether the clauses NASA proposed remain in standard FAR format or are deviated at Caltech's request will depend on the outcome of contract negotiations. If NASA decides to authorize a FAR deviation from standard government practice, such as that for determining the allowability and payment of indirect costs at JPL, it needs to put in place alternative procedures that will adequately provide the accountability and oversight intended by the standard FAR provision. In the case of indirect costs, the alternatives would need to provide NASA and JPL management with appropriate visibility of indirect costs and the discipline to control these costs.

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## Other Contract Changes Have Been Proposed

The RFP also proposes changes to certain general provisions in the current contract related to allowable cost and financial risk. For example, revisions are proposed for the contract provision on determining allowable costs. In the current contract, seven pages are used to supplement the OMB cost guidelines, whereas the RFP contains two supplemental pages. Sections proposed for deletion include those making anticipatory costs, termination cost items, and other special costs allowable. Both NASA procurement officials and Caltech representatives said that the intent of the current contract provision was to remove potential ambiguity. However, NASA officials noted that, although such supplemental contract provisions could be used to clarify, illustrate, or limit the allowable costs under the contract, they could also be used to expand the definition of allowable costs.

The RFP also proposes deleting a current provision on the administration of the cost accounting standards, which capped the amount that can be withheld to \$2,000 a week for not submitting certain information in a timely manner. The standard FAR provision gives the contracting officer discretion to withhold up to 10 percent of a contractor's payments. The current provision restricts this discretion and limits Caltech's potential cost if found in noncompliance with this reporting requirement. NASA's contracting officer said that the current provision was simply the result of a reasonable, negotiated compromise.

In addition, the RFP proposes prohibiting the transfer of funds from one task order to another without the approval of NASA's contracting officer. This differs from the current contract provision that allows for automatic approval of Caltech's transfer requests under certain circumstances if NASA's contracting officer does not provide necessary funding within 11 calendar days. Caltech representatives stated that this provision was justified as a safeguard to ensure sufficient cash flow to make payments that are not covered by NASA termination policies.

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### Some Proposed Provisions May Adversely Affect Internal Controls

Although the number of deviations are reduced and other provisions are strengthened in the RFP, some contract provisions with potential internal control weaknesses remain or have been proposed. Therefore, such provisions may need to be clarified during the negotiation of the contract, including those that describe the FFRDC work that JPL should do, detail how new or revised federal regulations will be incorporated into any contract extensions, and address the allowability and reasonableness of certain costs.

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### Appropriately Scoping JPL Activities Is a Significant Challenge

The current contract's "description of work" is broadly written and has been characterized as "enabling language" by one NASA official. The broad scope provides limited guidance to help differentiate work that should be performed by the FFRDC from work that should be performed by others. Work statements range from those that describe activities for which JPL has been internationally known, such as "exploring the Moon and its environment and the planets and interplanetary space" to more generic descriptions, such as "assisting NASA in the formulation and execution of its programs by providing NASA with technical advice, studies, and reports of investigations."

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The RFP's description of work reduces the scope of acceptable JPL activities for other agencies. The current contract states that "work for non-NASA agencies at JPL will focus on work which can apply technology or abilities which were developed, used or acquired in the conduct of work by JPL for NASA or for others, or which are needed for future work for NASA." The RFP replaces the words "focus on" with "be confined to."

For NASA work, the RFP consolidates in one section the description of work scope but does not materially reduce the breadth of what is included within the scope. Such a broad scope allows work to be directed to JPL that others could also be qualified to perform and might more appropriately be obtained using a competitive bid process. NASA officials believe the consolidated, revised section of the RFP is written so that it is both broad enough to be flexible but specific enough to differentiate the work that should go to JPL.

During the course of our review, non-NASA tasks were assigned to JPL in which the unique contribution of JPL was not apparent. According to a recent report of the Department of Defense's Office of the Inspector General,<sup>7</sup> a U.S. Army acquisition was directed through JPL in an area in which JPL had no expertise. The work was then subcontracted to the only known source capable of performing it. JPL added \$1,002,000 in direct engineering costs and \$1,263,000 in overhead costs to the \$6,760,000 of work done by the subcontractor, although all the work was performed at subcontractor and U.S. Army facilities. In another instance, the Army directed JPL to procure tank kits from a certain foreign country, paying JPL \$170,000 to prepare a statement of work and monitor the \$600,000 acquisition. The report concluded that the Army, by sending the money through JPL, was able to obligate funds before they expired, avoid Army procurement channels, and obtain services from a specific contractor.

Both of the Army task orders to JPL were approved under the contract's scope of work and NASA's existing task approval process. Therefore, we believe that revising the description of JPL work for other agencies is only a partial answer to ensuring that JPL only performs work that is appropriate. Inevitably, some judgment would remain because of the subjective nature of the task approval process. More importantly, since task orders from other agencies help absorb overhead costs NASA might otherwise be asked to pay, it is not clear to us whether, or to what extent, these circumstances affect NASA's objectivity in evaluating interagency task

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<sup>7</sup>Army Acquisition of Services Through the Jet Propulsion Laboratory, Office of the Inspector General, Department of Defense, Report Number 93-059, February 25, 1993.

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orders. We plan to examine the management approval process for task orders in our further work on NASA oversight at JPL.

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### RFP Could Limit Application of Updated Regulations

FAR provisions limit FFRDC agreements to no more than 5 years. This allows for continuing the FFRDC but only after a formal reassessment of the continued need for, and effectiveness of, the FFRDC. Limiting the contract to a 5-year agreement also allows updated regulations to be inserted when a new contract is negotiated.<sup>8</sup> NASA's RFP would allow two 5-year extensions of the basic 5-year contract for a total contract period of 15 years. The clause for extending the contract term in the RFP does not provide for an update of applicable regulations or require documentation of the continued need for JPL as an FFRDC. The process by which new or revised federal regulations would be added to the contract could be subject to conflicting interpretation.

Caltech representatives noted that the decision to include option periods in the contract was unilaterally made by NASA and, unless other contract provisions such as fee were subject to reconsideration, a contract extension would not be considered. In Caltech's response to the RFP, the provision for contract options was omitted, but we were told it would be considered as part of negotiations.

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### Certain Costs Need Clarification

The current contract and the RFP do not address two areas that should be clarified: the allowability of the cost of certain meals and the reasonableness of tuition benefits for employee dependents.

#### Meal Costs

Approximately \$375,000 in food and beverages was charged to the NASA contract for fiscal years 1991 and 1992 under JPL's interpretation of OMB Circular A-21 cost principles. The section covering "Memberships, Subscriptions, and Professional Activity Costs," states:

Costs of meetings and conferences, when the primary purpose is the dissemination of technical information, are allowable. This includes costs of meals, transportation, rental of facilities, and other items incidental to such meetings or conferences.

Under its interpretation of this cost principle, JPL included the cost for "working meals," which generally consisted of small groups of JPL employees and visiting federal government officials meeting to continue

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<sup>8</sup>Regulations are incorporated on the date the contract is signed. When subsequent revisions are made to regulations, the revisions are not automatically incorporated into an existing contract. However, regulations can be, and have been, incorporated if agreed to by both NASA and Caltech.

the business discussions of the day. Alcoholic beverages were often served as part of these meals but were generally charged to a separate Caltech account and not to the JPL contract. An official in OMB's Office of Financial Standards and Reporting said the intent of the relevant A-21 cost principle is to cover the cost of attending a professional meeting, such as a conference, and not the cost of continuing the business discussions of the day.

About \$82,000 in food and beverage costs charged to the contract in fiscal years 1991 and 1992 were for working meals, \$50,000 of which was for costs at the faculty club located on the Caltech campus. Another \$145,000 was for refreshments, such as coffee and donuts, served at various meetings at JPL. Caltech's internal audit office estimated that about \$148,000 was for meals at professional meetings and conferences. After we brought this matter to NASA's attention, the NASA Resident Office asked the Defense Contract Audit Agency to make an independent determination of allowability. The results of that determination are not yet available.

The controls to ensure that meal charges met the minimum JPL criteria for charging them to the contract were also weak. Our review of costs that were claimed for meals at the Caltech faculty club during fiscal years 1991 and 1992 found that JPL employees arranging these events did not obtain authorization from the responsible JPL office for 28 percent of them. In addition, one project group, whose activities are jointly funded by JPL and Caltech, charged meals to NASA without the JPL authorizing office knowing about it. The approvals in authorized cases were obtained based on estimated costs, but actual costs were not reviewed and compared to the approved estimates. Actual costs for approved meals were 28 percent higher than the approved estimates.

Also, there is a JPL policy to offer government employees the opportunity to pay for their meals. However, JPL records showed that of the 58 events in fiscal years 1991 and 1992 with government employees present, meal reimbursement for one or more government employees occurred at only 21 events. The meals of those that did not pay were claimed as an allowable cost under the current contract.

Finally, weak internal controls allowed the charging of certain questionable items. Our sample of 12 months of faculty club records identified approximately \$500 in questionable charges, including alcoholic

beverages.<sup>9</sup> However, alcoholic beverages are unallowable under JPL policy, and there is a Caltech account for recording such charges. Caltech representatives attributed this situation to human error and noted that when these costs were claimed, the OMB circular in effect did not explicitly state that alcohol was unallowable.

After we discussed these circumstances with NASA officials at JPL, they agreed that the justification for the meal charges were unclear and that control measures were weak. NASA officials said that the questionable nature of these costs and internal control weaknesses were not identified by past audits or their own oversight. After this issue was brought to its attention, JPL initiated a policy to strengthen controls in this area. Caltech representatives believed that meal costs were allowable, reasonable, and allocable to the contract and that the meals and beverages were incidental to the goal of making the best use of senior officials' time. However, Caltech representatives also felt that the general appearance of these meals, if viewed out of context, could be too easily misconstrued. As a result, Caltech revised its policy and practices to eliminate all future business meals expenses from the JPL contract.

#### Dependent College Tuition

The reasonableness of college tuition support for JPL dependents as an allowable cost under the contract needs to be clarified. In general, the same benefit package is applied to Caltech employees who work at the Caltech campus and those who work at JPL. One of those benefits is the Tuition Scholarship Program for employee dependents. This benefit includes full tuition scholarships for dependents of employees attending Caltech and up to 50 percent of the amount of Caltech's tuition for dependents attending other universities. The latter extended tuition benefit is only available to senior level Caltech employees, including about 150 employees at JPL. According to OMB Circular A-21 cost principles for educational institutions, dependent tuition as an employee benefit is allowable if granted according to university policies.

For the three fiscal years ending in 1992, NASA paid \$361,000 for dependent tuition at Caltech. During the same period, NASA also paid almost \$408,000 for extended dependent tuition at other universities, with the annual cost increasing each year, from \$112,000 to \$176,000.

We reviewed the extended dependent tuition benefits at the other six major FFRDCs administered by educational institutions. Only the

<sup>9</sup>Our sample was of a limited number of selected transactions for the purpose of testing internal controls. The sample was not part of a comprehensive review to identify unallowable or questionable costs.

Massachusetts Institute of Technology, which operates the Lincoln Laboratory, offers anything similar to Caltech's benefit. However, the benefit has been scaled back. For example, non-tenured faculty, and other academic, administrative, or research staff at Lincoln Laboratory hired after 1977 receive a maximum of \$2,000 annually for dependent tuition at other colleges compared to \$7,500 for dependents of eligible JPL employees.

NASA's 1980 approval of the JPL extended tuition benefit was conditional on Caltech limiting program cost increases. After we discussed the cost increases with NASA Resident Office officials, they informed Caltech that this benefit would no longer be considered a reasonable expense and would be a part of negotiations for the next contract.

Caltech representatives said that they believed this was a reasonable benefit, particularly when viewed within the context of Caltech's overall benefits package. They also believed that they should have some flexibility to develop a compensation and benefits system that can attract, retain, and motivate high-caliber employees.

## Contract Fee Considerations

Caltech has received a fee under past contracts, and a provision for a fee is included in the RFP. Before a fee is approved for the next contract, NASA needs to justify and approve a deviation or clarify its own policy regarding paying fees to educational institutions. If a fee is to be paid, the rationale for doing so should be explicit and the reasonableness of the amount clearly established.

## Paying a Fee Is Contrary to NASA Policy

The \$69 million in fees provided to Caltech during the current 5-year contract period is contrary to NASA's policy not to pay a fee or profit on contracts with colleges and universities. According to Caltech representatives, a fee has been a feature of Caltech's management of JPL throughout the NASA-Caltech relationship. Despite the prohibition on paying a fee, no policy deviation has ever been justified or granted for the JPL contract, according to a NASA official. However, NASA's Assistant Administrator for Procurement approved the pre-negotiation memorandum for the current contract containing an explanation of the fee payment, and the NASA contracting officer at JPL said that the failure to specifically request a deviation for the fee was an unintentional oversight. NASA headquarters has requested that the NASA Resident Office prepare a

justification for a deviation to pay a fee under the next contract. According to a NASA official, such a deviation request would likely be granted.

The reasoning behind the no-fee policy, according to a NASA official in the Contract Pricing and Finance Office, was primarily philosophical: nonprofit entities should be treated as such. The NASA official noted that a fee for educational institutions was not appropriate because the work is usually research that corresponds to the universities' interests and both NASA and the universities benefit from doing the work. This appears to be the case for Caltech work at JPL. For example, as part of the current NASA-Caltech contract, Caltech receives about \$3.5 million annually to fund discretionary research. Caltech also has first claim to patent rights, rent-free use of JPL equipment for Caltech activities, and opportunities for faculty and student paid research.

## Justification for a Fee Is Unclear

The justification for the fee and its amount is not clearly linked to factors such as potential risk or management performance. The current and proposed method for paying fee is based on the dollar value of work planned for JPL. To develop a negotiation position on the fee amount for a given level of work, NASA used its structured profit/fee guidelines for commercial organizations. The guidelines specify weights within a range for factors such as managerial responsibilities and material purchases. A 3-percent downward adjustment was then made to recognize the contractor's nonprofit status. In the current contract, NASA did not require that Caltech provide a justification for the fee. NASA officials mentioned the difficulty in setting the fee, given that there is no governmentwide guidance on setting fees for FFRDCs. The recent report on FFRDCs by the Subcommittee on Oversight of Government Management also noted the lack of federal guidelines or requirements for appropriate FFRDC management fees and recommended that federal agencies require each FFRDC to justify its management fee in writing.<sup>10</sup>

The justification for the JPL fee is not clear. Caltech representatives said that it was NASA's responsibility to justify the fee and that the fee had become part of its general revenues and was not associated with any specific expenditure. They said that there were risks not covered by the contract and necessary costs that were unallowable. The Caltech representatives believe that Caltech risks financial liability in certain instances and damage to its reputation if JPL efforts are unsuccessful. For

<sup>10</sup>Inadequate Federal Oversight of Federally Funded Research and Development Centers, Subcommittee on Oversight of Government Management of the Committee on Governmental Affairs, United States Senate, July 8, 1992.

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example, technical failures could tarnish Caltech's reputation, and Caltech could be liable for costs to close JPL if the government failed to provide sufficient termination funds. Costs considered by Caltech to be necessary but unallowable included items such as color printing, charitable contributions, and employee relocation costs in excess of allowable limits.

However, a NASA official said that the structured guideline weights allowed consideration of contractor risk in establishing fee and that it was generally understood in the contracting community that contractors used some—probably a small portion—of the fee for expenses that the government deemed as unallowable. On the other hand, a NASA document summarizes the rationale for the Caltech fee as “finally but most importantly, [continuing] the precedent of supporting the Contractor's campus operation in a meaningful fashion. NASA management desires a strong JPL and a strong JPL cannot exist without a strong and viable Caltech.”

In 1992 NASA began an agencywide effort to expand the use of incentive-based fees to reward excellent performance under its cost-reimbursable contracts. However, this effort is not being applied to the proposed JPL contract. A NASA official stated it would be difficult to apply this initiative at JPL because the technical and managerial work is performed on a large number of diverse and ongoing task orders. Caltech representatives believe that such incentive fees are generally based on a larger fee amount, which would provide greater incentive than has been paid historically at JPL.

NASA does perform an annual assessment of Caltech's performance at JPL, but it is not linked to fee. NASA's most recent assessment provided high technical marks to Caltech but noted controlling costs as an area for improvement. Since neither the current contract nor the RFP links fee to performance, NASA cannot adjust the fee accordingly.

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### Fees at Other FFRDCs Are Lower

Of all large FFRDCs administered by educational institutions, none receives a fee (or management allowance) as high as Caltech's fee. As shown in table 1, Caltech's fee, as a percentage of the budget, was more than double that of any other educational institution.

**Table 1: Fees at Selected FFRDCs Administered by Educational Institutions** (Dollars In Millions)

FFRDC	Fiscal year 1992		Fee as a percent of budget	Contractor
	Budget	Fee amount <sup>a</sup>		
JPL	\$1,132	\$14.3	1.3	Caltech (private)
Los Alamos, Livermore, and Berkeley Laboratories <sup>b</sup>	2,693	13.0	0.5	University of California (public)
Brookhaven National Laboratory	315	1.8	0.6	Associated Universities, Inc. <sup>c</sup> (nonprofit)
Argonne National Laboratory	530	2.8	0.5	University of Chicago (private)
Lincoln Laboratory	374	0	0	Massachusetts Institute of Technology (private)

Note: This table only compares fee (and/or management allowance) amounts. These institutions may also receive other sources of discretionary funds.

<sup>a</sup>In some cases, part of the fee is intended to help cover the indirect costs of the administering institution. For example, the contracts for the Argonne and Brookhaven National Laboratories provide for this type of coverage. On the other hand, Caltech and the University of California receive additional funds for those costs, estimated at \$7.4 million for Caltech in fiscal year 1992.

<sup>b</sup>The laboratories (and associated budgets in millions of dollars) include Los Alamos National Laboratory (\$1,108), Lawrence Livermore National Laboratory (\$1,293), and Lawrence Berkeley Laboratory (\$292).

<sup>c</sup>A nonprofit, scientific and educational organization founded by nine universities.

NASA must, of course, weigh various factors in establishing its position on the need for and the amount of any JPL fee, such as additional independent research and development funds provided, the costs allowed under the contract, the risk of the work, and any exposure to liability. However, in weighing the fee issue, NASA may also want to consider the relative level of fee and other management allowance paid to other FFRDCs.

## Recommendations

Before the JPL contract is renewed, we recommend that the NASA Administrator

- ensure that scope of work is as specific as possible for differentiating between work that should be performed by JPL as an FFRDC and work that should be performed by others;

- ensure that appropriate government regulations will be added or updated and a review of the continued need for JPL as an FFRDC will be completed if contract options are exercised;
- specify in the new contract that “working meals” are an unallowable cost;
- decide whether and to what extent NASA should continue paying college tuition support for dependents of JPL employees; and
- authorize a deviation from NASA policy to pay a fee only if its purpose and amount have been adequately justified in writing and, if a fee is authorized, apply NASA’s agencywide initiative for contract excellence to the JPL contract and base the fee on management performance.

## Scope and Methodology

We reviewed NASA’s RFP to Caltech for JPL activities and NASA’s contract files, including the analysis supporting past and current government positions on contract deviations. Also, we reviewed the FAR and NASA’s supplemental guidance to it, particularly those provisions related to FFRDCs, cost principles, and contract deviations.

To provide NASA with information to consider while developing its proposal for the new contract, we met with NASA officials, at their request, early in our review and shared our views on the current contract, particularly in the areas of NASA’s justification for the deviations from FAR, allowable costs, and the use of and rationale for the fee.

We did not do an in-depth review of individual elements of costs in the JPL contract. We limited our work to several types of transactions in the account in which transfers of funds between JPL and Caltech’s campus operation are recorded. We did our work at NASA Headquarters, Washington, D.C., and at JPL, Pasadena, California. We met with policy, program, and procurement officials at NASA Headquarters and with NASA Resident Office officials at JPL. We also talked with Caltech representatives at JPL and on campus.

We conducted our work from July 1992 to May 1993 in accordance with generally accepted government auditing standards. As requested, we did not obtain agency comments on a draft of this report. However, we discussed the information in this report with both NASA officials and Caltech representatives and considered their comments in preparing it.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days after its

issue date. At that time, we will send copies of this report to the Administrator, NASA; appropriate congressional committees; the Director, OMB; and other interested parties.

Please contact me on (202) 512-8412 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix II.



Donna M. Heivilin,  
Director, Defense Management and NASA Issues



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# Examples of Deviations in the Proposed JPL Contract and NASA's Rationale for Approval

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## **Deviation: Definitions**

**Effect:** Expands the FAR definition of "contract" to include "task orders."

**Rationale:** Task orders are the basic method for authorizing JPL work. This deviation avoids deviations in other clauses using the term "contract" when "task order" is more appropriate.

## **Deviation: Government Property**

**Effect:** Allows the contractor to use government equipment for campus research on a non-interference basis (over \$7.3 million of equipment was on loan to Caltech as of March 1993).

**Rationale:** It is appropriate to allow loans, but NASA will not retain property just for Caltech's use.

## **Deviation: Government Property.**

**Effect:** Treats special test equipment as plant equipment and voids some plant equipment procedures.

**Rationale:** Special test equipment has not been accounted for separately for many years and would be an unnecessary accounting burden for an insignificant amount of equipment. The voided procedures do not apply.

## **Deviation: Insurance Liability to Third Persons**

**Effect:** Expands the definition of property (to include occupied, used, and rented, for example) for which Caltech will be reimbursed for loss or damage due to performing the contract.

**Rationale:** The standard FAR is appropriate when the contractor furnishes facilities for contract performance. Since JPL is an FFRDC with government-furnished property, it is appropriate for the government to pay for the loss.

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